Agilent Protein Fractionation System and Proteomics Reagents

Data Sheet

Applications

- LC/MS analysis of biological samples
- Preparation for electrophoretic analysis
- Sample preparation for biomarker discovery
- Instrument and workflow validation
- Cost-effective immunodepletion
- Sample desalting, concentration, and fractionation

Introduction

In order to more easily isolate and identify proteins in biological samples, such as serum, plasma, and cerebro-spinal (CSF), the Agilent Multiple Affinity Removal System is designed to chromatographically eliminate interfering high-abundance proteins from biological samples. Removal of these abundant proteins improves the subsequent LC/MS and electrophoretic analysis of the sample by effectively expanding the dynamic range.

For sample fractionation and desalting, the Agilent mRP-C18 High-Recovery Protein Column is designed to simultaneously desalt, concentrate, and fractionate in one easy step with extremely high recovery of samples as compared to conventional RP HPLC columns that are fully compatible with LC/MS analysis.

In addition, validated reagents for sample preparation in biomarker discovery and other proteomics applications are also available, including a standard for proteomic workflows. For your convenience, these reagents are fully compatible with Agilent LC/MS methods and require no additional sample pretreatments.

Figure 1. Multiple Affinity Removal Column and Cartridges.

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Immunodepletion Columns and Cartridges

Multiple Affinity Removal System—Human 14 Columns and Spin Cartridges

These columns and cartridges can be used to eliminate 14 of the highest abundance proteins in plasma or serum, removing approximately 94 % of the proteins (see Figure 2) that can interfere with your analysis. They are available in both HPLC column and spin cartridge formats (see Figure 1) for your convenience. If you prefer removal of fewer high abundance proteins, we also offer columns and cartridges for removing albumin alone, the top 2, 6, or 7 human proteins, or the top 3 mouse proteins. In addition, since they can be used for more than 200 runs, they provide cost-effective immunodepletion. The resulting samples produced are compatible with the Agilent 3100 Offgel Fractionator and Macroporous Reverse Phase-C18 Column.

Columns		Spin Cartridges	
Product Description	**Part Number**	**Product Description**	**Part Number**
Hu-14, 4.6 x 50 mm	5188-6557	Hu-14	5188-6560
Hu-14, 4.6 x 100 mm	5188-6558		
Hu-14, 10 x 100 mm	5188-6559		
Hu-7, 4.6 x 50 mm	5188-6409	Hu-7	5188-6408
Hu-7, 4.6 x 100 mm	5188-6410		
Hu-7, 10 x 100 mm	5188-6411		
Hu-6, 4.6 x 50 mm	5185-5984	Hu-6	5188-5230
Hu-6, 4.6 x 100 mm	5185-5985		
Hu-6HC, 4.6 x 50 mm	5188-5332	Hu-6HC	5188-5341
Hu-6HC, 4.6 x 100 mm	5188-5333		
Hu-6HC, 10 x 100 mm	5188-5336		
Hu-2, 4.6 x 50 mm	5188-8826	Hu-2	5188-8825
Hu-Albumin, 4.6 x 50 mm	5188-6562	Hu-Albumin	5188-5334
Ms-3, 4.6 x 50 mm	5188-5217	Ms-3	5188-5289
Ms-3, 4.6 x 100 mm	5188-5218		

Buffers and Accessories	
Product Description	**Part Number**
Column Buffer Starter Kit	5185-5986
Cartridge Buffer Starter Kit	5188-5254
Buffer A, 1L	5185-5987
HC Sample Dilution Buffer, 50 mL	5188-8283
Buffer B, 1L	5185-5988

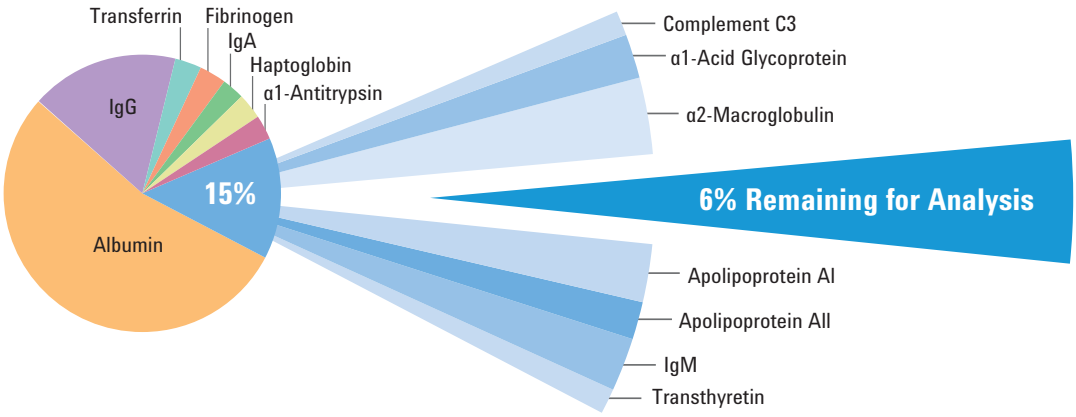

Figure 2. Illustration of high abundance proteins that are removed by the Agilent Multiple Affinity Removal Columns and Spin Cartridges.

Protein Fractionation Columns

mRP-C18 High-Recovery Protein Fractionation and Desalting HPLC Columns

These high performance columns recover > 98 % of proteins and peptides. They offer an easy, automated one-step solution by simultaneously desalting, concentrating, and fractionating samples. The Agilent mRP High-Recovery Protein column can be used with a wide variety of sample types, including whole-cell lysates, lipid rafts, and membrane preparations. When used with membrane protein fractions, they achieve > 95 % recovery.

Product Description	Part Number
mRP 0.5 x 100 mm Column	5188-6510
mRP 2.1 x 75 mm Column	5188-6511
mRP 4.6 x 50 mm Column	5188-5231

Custom Configurations

Custom column and bioreagent configurations are available. For more information, please contact us at **www.agilent.com/genomics/custom_manufacturing**

Proteomics Reagents for LC/MS Analysis

Agilent Complex Proteomics Standard and Proteomics Grade Trypsin are essential tools for protein characterization and shotgun proteomics applications. These validated reagents are compatible with Agilent LC/MS methods and require no additional sample pretreatments.

Complex Proteomics Standard

- Ideal for workflow validation over time and across multiple instruments
- Useful for comparing methods and equipment between laboratories
- Soluble *Pfu* protein extract mimics high complexity and diversity of samples typically used for biomarker discovery and other proteomics studies
- Contains over 1,500 proteins representing a wide range of sizes and properties

Proteomics Grade Trypsin

- High specificity and purity reduces autolysis and ensures consistent performance
- Treated with TPCK to prevent generation of autolytic peptide fragments
- Qualified for use with Agilent 1260 Infinity HPLC-Chip/MS and 6000 Series LC/MS systems
- Includes protocols for in-solution and in-gel digestion

Product Description	Part Number
Complex Proteomics Standard	400510
Trypsin	204310

For more information about our proteomics reagents for LC/MS analysis, visit us at **www.agilent.com/lifesciences/proteomics_reagents**

Ordering Information

Find an Agilent customer center in your country
www.agilent.com/genomics/contactus

U.S. and Canada
1-800-227-9770
Agilent_inquiries@agilent.com

Europe
Info_agilent@agilent.com

Asia Pacific
Inquiry_isca@agilent.com

www.agilent.com/lifesciences/proteomics_reagents

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